THE VOICE AND ITS INFLUENCE

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The training of the nurse in the medical care of patients lies for the most part in methods and tasks that change from patient to patient but I wish to present a few ideas that can be used in every case and at all times. I shall not attempt to present the old material of the nurse's training in novel garb but to offer something new which can be employed of all occasions with equal profit and success.

In a splendid school for nurses which I have had the privilege of watching minutely for one year, there was never a word of instruction upon the important subject of the nurse's voice. The same is true of many other schools with which I have had a more distant connection; yet my subject is of great importance to the nurse and has not been mentioned only because it has been unknown.

A brief review of brain physiology will be helpful as an introduction to my more immediate subject. In the middle of the left hemisphere of the brain, as you know, lies the important fissure of Rolando. The convolutions just in front of and behind this fissure are very important. The one in front is the motor area where the cells regulating muscular motions are located. Behind the fissure of Rolando lies the sensory area which registers sensations received from the body. Now, the motor region controls the larger motions, such as grasping, reaching, holding, but not the much more delicate and complex motions, like writing. These are controlled by nerve cells near the motor area but outside it. This specialized function and control by a higher center is found also in the sensory area. Just back of the arm area in the sensory field is an area where the cells interpret sensations sent up to the great sensory arm area, guiding arm sensations over into conclusions, interpreting nerve sensations, acting as a seat of final judgment as to what things are. This function of recognizing external objects is called stereognosis. We know of the existence of these higher controlling centers because when they are destroyed these functions no longer exist. Destruction of the higher refined motor area causes loss of the writing faculty known as agraphia. This construction of higher centers for control and interpretation of lower centers is a favorite method with the architect of the cortex. To give one more example out of many, visual sensations pass to a part of the cortex known as the cuneus and

are registered there as gross sensations, but outside that area is a higher center which, when human beings are seen, classes them as acquaintances or strangers, or, when letters are seen, puts them together into words. Pathologic lesions may destroy these functions also and lead to psychic blindness and word blindness.

We see, then, that it is the rule for sensations reaching the brain to branch out into correlated centers for interpretation and for motor impulses passing from main centers to be guided by more refined, discriminating and highly specialized parts.

With these higher interpreting centers in mind, let us turn to the voice and see whether there is anything analogous in its perception and production. For our purpose, no centers need be named or located. If, in the mere outward expression of voice we find clear evidence of the control of higher, more discriminating centers, then we may safely conclude, upon the analogy with the action of the arm and eye centers, that corresponding anatomical divisions, ranging in size from a cell to nuclei and larger areas, do actually exist. If I can show that the voice is capable of making fine and delicate discrimination analogous to those of the hand in writing or of the eye in recognizing a friend, then I may safely assume that there is a higher center of voice control like those in the arm and eye areas. Wherever there is a function, there must be an organ to perform that function.

Let us consider first the voice as heard, that is the sensory side. A neighbor says to me: "At nine o'clock this morning I saw Mrs. Jones enter her car with her dog. The dog went first and sat on the seat. Then Mrs. Jones followed and the chauffeur took his seat and drove away." The whole meaning of these words is in their denotation. No more is meant than what the words themselves, in their simplest sense, convey. There is nothing suggested by them, nothing insinuated or connoted, nothing logically implied.

But let us take another case. A friend tells me about a patient who is known to exaggerate her symptoms, "Your patient is complaining severely." I reply, "I should worry." The connotation of these words of mine is the exact opposite of their denotation. Or suppose a man tells me he has accomplished a feat which seems to me impossible. I say to him, "Yes you did!" It is clear that my reply is only a politer way of saying, "You did not. I don't believe you." The implication of the words is just the opposite of the sense which the words themselves convey.

Again, some one asks, "What makes the baby cry?" The answer comes, "She just slipped and fell." Here the obvious intent of the answer is to lead the listener to infer from the fact as stated that the

baby cried because she fell, but the words do not say so. She may have been punished an instant before she fell. In this instance, the words play for an inference upon the mind of the hearer and he passes through a logical process to the reason he asked for and did not receive.

From these three examples you see that the hearer may get the meaning of mere words or may get an idea opposite to the meaning of the words or may be led to infer a fact from a statement. In other words, so far, the higher sensory centers that have been called into action to interpret these three cases have had to deal (a) with the ordinary meaning of words, (b) with a previously learned connotation of some set phrase, and (c) they have had to draw a logical inference.

But now, setting these matters aside, let us take up an entirely different set of cases which are not to be explained by the simple understanding of mere words, by a familiar connotation superimposed or by a logical inference. I say to my dog in a kindly voice, "Come here, poor puppy," and he comes. I say to him, "Get out of here" in a rough voice and he departs at once. But if I keep the voices the same and transpose the words, the dog goes at the first order and comes at the latter. It is the sound of the voice and not the words to which he reacts.

"Yankee Doodle" is a light, lilting jingle and is commonly recited in a joyous rollicking rhythm, and at a swift pace. But suppose that Yankee Doodle's mother had just died and that he was coming to town solely to attend her funeral. If one recites a verse of the song with this interpretation in mind, the corners of the mouth are drawn down, the voice is low and mournful, one prolongs the vowel sounds and dwells upon the broad, open sounds that are capable of producing a lugubrious effect. Or take the first ten lines spoken by the witches in *Macbeth*. No two readers would recite these lines in just the same way because each individual feels a different emotional content in them.

All these illustrations conclusively show that we habitually depend in our speaking upon an extremely delicate and complex capacity in our hearers for the higher interpretation of the spoken word. In other words, the sensory side of voice perception is highly developed in all educated persons, and the greater the culture and refinement of the individual, the more delicate and discriminating this faculty is found to be. This is the sensory perception of vocal expression. It is hearing deeper than the mere words. It is becoming delicately sensitive to a high vocal content. In medical terms it is development of new cortical centers above the low and gross hearing center which can interpret from previous experience what the lower centers register. I feel an object in my hand. Then I say, "That is a nickel." The center

of stereognosis has acted. I listen to words and say, "He is commanding." Those who cannot interpret the voice should not say, "There is no such center," but should modestly say, "In me it is yet undeveloped."

Those who hear mere words and react upon their meaning as such, or those who hear words and react upon connotations established by custom, or those who hear and act upon the logical implication of words and who sense no more in the voice, have the vocal interpretation center as yet undeveloped.

Thus much for the sensory side of voice and its interpretation. More details seem uncalled for. Clearly, it behooves you to pay some attention to the voices of your patients, to read their meaning, see their intent, sense the whole background of their voices. There are several steps to be taken in doing this. First, get the individual's vocal norm; then study usual variations under normal conditions; then look for his pathological vocal changes. Thus you will be ready to judge and interpret a voice in any mood.

The nurse should develop her powers along these two channels: first, she should train her ear and mind to catch the most delicate, half-hidden shades of meaning that words can be made to carry in order that she may more quickly understand the needs and feeling of her patient; secondly, she should train her imagination and her voice to such a degree that she will be able instantly to place an intense content, a great weight of added meaning, upon the mere words that are uttered. The sympathy and understanding expressed in the tones of a finely modulated voice are more effective in gaining a patient's confidence than any mere words uttered in a careless tone can ever be. But it is only the trained voice with the keen, alert brain back of it that can accomplish this.

HOT COMPRESSES

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In applying hot compresses of large size, wet the compress with tepid water, then go over it rapidly with a very hot flatiron. The advantage is the increased steam, which will hold the heat longer.